

Fire Investigation 1A

Activity 3-2-1: Interpreting Fire Dynamics

Interpreting Fire Dynamics

Activity 3-2-1

Format: Group or All Students

Time Frame: Open (based on a total of 10:00 available hours)

Description

This activity provides students with an opportunity to observe and interpret fire dynamics.

Materials

- Air Quality Management District permit (if required)
- Incident action plan (IAP)
- Burn cubicle
 - Wood or steel frame (minimum 8'x8') with 8' ceiling (5 or 6 wall)
 - Window(s) and door (optional)
 - Drywall interior with optional interior finishes
 - Floor covering
 - Furniture and/or other combustibles
 - Smoke detector (optional)
- Staffed fire suppression equipment
- Personal protective equipment

Instructions

1. Observe and interpret the fire's development and dynamics
2. Compare and contrast fuel packages
3. Be prepared to discuss your observations

Instructor Notes

1. Recommend compliance with *NFPA 1403: Standard on Live Fire Training Evolutions*, Current Edition in your IAP.

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Activity 3-2-1: Interpreting Fire Dynamics

Activity Content

After completion of the burn, answer the following questions and be prepared to discuss your observations.

1. What were the observable fire effects?

2. What were the observable fire patterns?

3. Describe the fire's movement and intensity.

4. How did ventilation contribute to the fire's movement?

5. How did fuel items and/or fuel packages influence the fire effects and patterns?

6. How did air entrainment process affect plume development?

7. Did this fire flashover or rollover? Explain your reasoning

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Final Activity: Conducting an Origin and Cause Fire Investigation

Conducting an Origin and Cause Fire Investigation

Final Activity

Format: Group

Time Frame: Open (based on a total of 10:00 available hours)

Description

This activity provides students with an opportunity to conduct an origin and cause fire investigation.

Materials

- Burned cubicle (1 per 10 students) and or burned structure
- Tools and equipment
- Personal protective equipment
- Evidence collection equipment
- Device capable of taking photographs (i.e., tablet or cell phone)
- Graph paper and note pad
- Electronic device for developing and delivering a presentation

Instructions

1. Select a group leader
2. Conduct an exterior and interior survey
3. Examine and remove debris
4. Reconstruct the area of origin
5. Presents your findings after all activities are complete.

Instructor Notes

1. One burned cubicle for every 10 students
2. Allow 1 hour for the groups to prepare their presentation
3. Allow a minimum of 30 minutes for each group's presentation

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Final Activity: Conducting an Origin and Cause Fire Investigation

Activity Content

1. Select a group leader
2. Conduct an exterior scene survey
 - Recognize, analyze, and interpret fire patterns
 - Sketch and photograph the scene
 - Identify, protect, photograph, and secure possible evidence
3. Conduct an interior scene survey
 - Identify the area of origin and potential ignition source(s)
 - Recognize, analyze, and interpret fire patterns
 - Sketch and photograph the scene
 - Identify, protect, photograph, and secure possible evidence
4. Examine and remove debris
 - Evaluate the area to begin processing/excavating
 - Use the layering technique/sifting of debris
 - Identify, protect, photograph, and secure possible evidence
5. Reconstruct the area of origin
 - Examine the effects of fire on the materials
 - Return materials to their original position using protected areas and fire patterns
 - Determine why and where the contents were assessed and/or evaluated
 - Photograph the scene after reconstruction
6. Team leader will present the group's findings.